

TOPFIELD

TF 5400 PVR Combo

User Guide

*Digital Satellite & Terrestrial Receiver
Personal Video Recorder*



DVB
Digital Video
Broadcasting

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Chapter 1

Introduction

1.1 Introduction

The TF 5400 PVR Combo digital receiver is fully compliant with the international Digital Video Broadcasting (DVB) standard, and can receive digital broadcasts. For its operation, you need an antenna, which must be installed appropriately.

NOTE

In general we equate a channel with a frequency. However, unlike analog broadcasts, digital broadcasts are not all assigned to their own frequencies; instead, multiple television and radio broadcasts are transmitted through a single frequency. The frequency in digital broadcasting is usually called transponder. To reduce confusion, the word **service** is preferably used than **channel** as the term indicating one television or radio broadcast in this document.

The TF 5400 PVR Combo digital receiver has features as follows:

- It supports DiSEqC 1.0, DiSEqC 1.1, DiSEqC 1.2 and USALS.

- It is able to memorize up to 5000 television and radio services.
- Electronic program guide provides an overview of program schedules for next few hours.
- You can edit the service list.
- You can make your favorite list.
- You can view the information of the current television or radio program.
- You can update the firmware of the digital receiver to the latest, which will be provided by the manufacturer.
- The digital receiver features a digital video recorder with two tuners, with which you can record your choice of broadcasting services independently of ones you are currently watching.
- The large storage capacity of the built-in hard disk allows you to record up to 40 hours of material—in case of 80 gigabytes—in excellent picture and sound quality.
- Time shift is a special technical feature. You can pause the program you are watching and resume it again at a later time. You can quickly find whatever part of the current program by backward or forward search.

1.2 Controlling the digital receiver

You can control the digital receiver with the remote control and the buttons on the front panel.

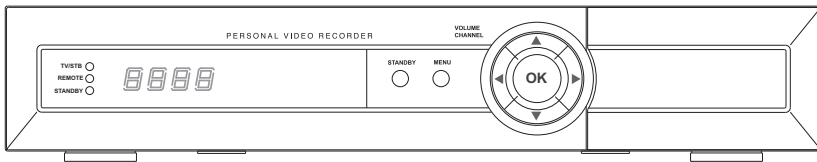
NOTE

When the digital receiver is off but plugged to a wall outlet, we say that it is in standby mode; on the other hand, when it is on, it is in operation mode. You should keep the digital

receiver plugged to a wall outlet so as it can run timer events at any time.

1.2.1 The front panel

The front panel of the digital receiver has buttons to operate the digital receiver, and lamps and a display to indicate its status. Their usage is as follows:



TV/STB lamp lights up while your video recorder operates instead of the digital receiver. For more descriptions, refer to § 3.2.3.

REMOTE lamp lights up whenever you press a button of the remote control.

STANDBY lamp lights up while the digital receiver is in standby mode.

Status display displays the current time in standby mode, and displays the current status of the digital receiver in operation mode.

STANDBY button switches the digital receiver between standby mode and operation mode.

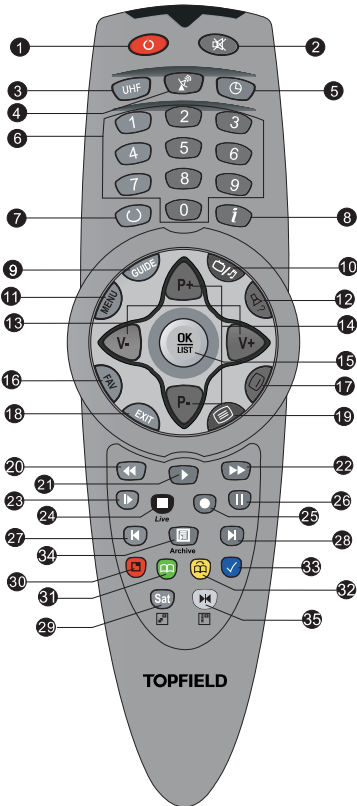
MENU button displays the main menu. It is also used to return to the previous menu from a submenu.








CHANNEL ▲, ▼ buttons move to the next or previous service. They are also used to navigate in menus and interactive screens.


VOLUME ◀, ▶ buttons increase and decrease the volume.
They are also used to change the options for a menu item.


OK button displays the service list, It is also used to select menu items.


















1.2.2 The remote control














- ①  button switches the digital receiver between standby mode and operation mode.
- ②  switches off the sound temporarily. Press again to switch it back on.
- ③  button displays the RF setting menu. See § 3.2.6.
- ④  button switches the output of the TV SCART socket between the digital receiver and the device connected to the VCR SCART socket. See § 3.2.3 for detailed description.
- ⑤  button sets a sleep timer.
- ⑥ Numeric buttons are used to enter service numbers and option values
- ⑦  button switches between the current service and the previously viewed one.
- ⑧  button displays more information about the current program or a program highlighted in the electronic program guide.


⑨  button displays the electronic program guide.

⑩  button switches between television services and radio services.






- ⑪  button displays the main menu. It is also used to return to the previous menu from a submenu.
- ⑫  button is used to select an audio track and sound mode, or a multifeed service, if available
- ⑬  ,  buttons increase and decrease the volume. They are also used to change the options for a menu item.
- ⑭  ,  buttons move to the next or previous service. They are also used to navigate in menus and interactive screens.
- ⑮  button displays the service list, It is also used to select menu items.
- ⑯  button displays the favorite list.
- ⑰  button is used to select a subtitle track if available.
- ⑱  button is used to leave the current screen.
- ⑲  button displays teletext if available.
- ⑳  button does backward playback or scan. Subsequent presses change the speed of playback.
- ㉑  button plays a recorded program, or displays the progress bar for navigation when playback has already started.
- ㉒  button does fast playback or forward scan. Subsequent presses change the speed of playback.
- ㉓  button starts slow motion playback. Subsequent presses change the speed of playback.
- ㉔  button is used to stop a playback, to stop a recording, or to jump back to live television from time-shifted television.
- ㉕  button starts a recording.

- ②⑥  button pauses live television and playback of a recorded program.
- ②⑦  button changes the position of picture-in-picture counterclockwise, and jumps to the end of recording in playback.
- ②⑧  button changes the position of picture-in-picture clockwise, and jumps to the beginning of recording in playback.
- ②⑨  button displays the satellite list with their service list, and swaps the picture-in-picture with the main picture. See § 5.5.
- ③⑩  button displays, resizes or hides the picture-in-picture.
- ③⑪  button makes a bookmark during playback or time shift.
- ③⑫  button plays from the next bookmark position.
- ③⑬  button is used to edit a recording.
- ③⑭  button displays the list of recorded programs that have been saved on the digital receiver's hard disk. See § 7.4.
- ③⑮  button displays the service list for picture-in-picture, or specifies a block for repeated playback.

If you do not have wide-screen television but normal screen television, pressing the  button changes, depending on broadcasting conditions, the display format as follows:

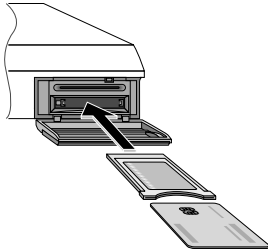
When you are viewing a wide-screen television, pressing the  button cycles through the display format options as follows:

4:3 Center Extract → 4:3 Letter Box → 16:9

, , ,  and  buttons have additional different functions per menu besides their own function. Their functions will be guided in the on-screen help.

1.3 What is common interface?

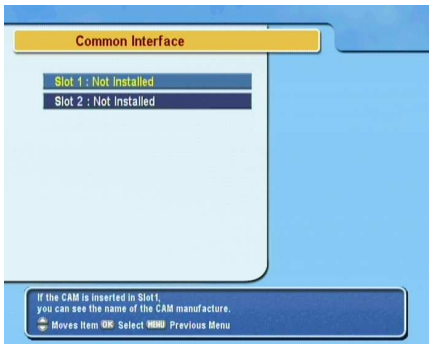
Some broadcasts are scrambled so that only paid subscribers can enjoy them. Scrambled services can only be viewed with a Conditional Access Module (CAM) and a subscription card belonging with the scrambling system.



Common Interface (CI) is an interface for conditional access modules. The front of the digital receiver has two common interface slots.

To watch a pay service, you should take the following steps:

1. Purchase a conditional access module and a subscription card for the pay service you want to watch.
2. Insert the subscription card into the conditional access module.
3. insert the conditional access module to a common interface slot on the front of the digital receiver.



To view the information about the module and subscription card inserted to the digital receiver, select the Common Interface menu.

Chapter 2

Setup

2.1 Unpacking

Before going any further, check that you have received the following items with your digital receiver.

- Remote control unit
- Two batteries for the remote control (AAA 1.5 V)
- One Component AV cable, to link the digital receiver to your television set
- One S-Video cable, to link the digital receiver to your television set
- A copy of this user guide

2.2 Safety precautions

Please read and keep the following safety precautions carefully.

- The power must be 90 to 250 volt. Check it before connecting the digital receiver to the wall outlet. For the

power consumption of the digital receiver, refer to Table 2.1.

- The wall outlet shall be installed near the equipment and shall be easily accessible.
- Do not expose the digital receiver to any moisture. The digital receiver is designed for use in dry rooms. If you do use it outdoors, ensure that it is protected from moisture, such as rain or splashing water. Use only dry cloth when cleaning the digital receiver.
- Place the digital receiver on a hard and level surface.
- Do not place the digital receiver close to heating units or in direct sunlight, as this will impair cooling. Do not lay any objects such as magazines on the digital receiver. When placed in a cabinet, make sure there is a minimum space of 10 centimeter around it. For the physical specification of the digital receiver, refer to Table 2.2.
- Protect the power cord from being walked on or pinched.
- Never open the digital receiver casing under any circumstances. Warranty claims are excluded for the damage resulting from improper handling.
- Refer all servicing to qualified service personnel.

Table 2.1: Power specification

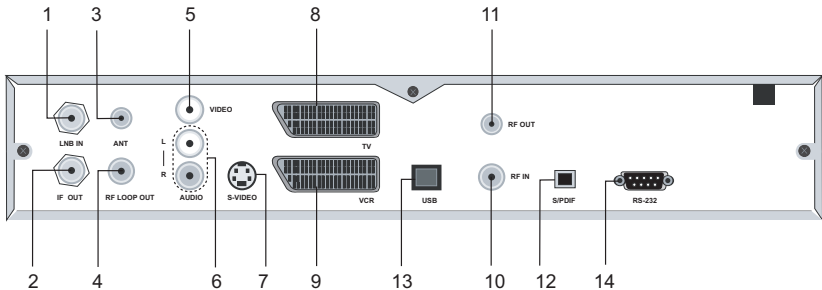
Input voltage	90 to 250 V AC, 50/60 Hz
Power consumption	40 W at maximum in operation 8 W in standby

Table 2.2: Physical specification

Size	340 × 60 × 265 mm
Weight	3.4 kg
Operating temperature	0 to 45 °C
Storage temperature	−40 to 80 °C
Storage relative humidity	5 to 95 %

2.3 Rear panel connections

The TF 5400 PVR Combo has a wide range of connections on the back panel.



Check up what connections your television set has in comparison with the digital receiver.

- ① LNB IN Broadcasting signal input socket for the first tuner.
- ② IF OUT Broadcasting signal output socket from the first tuner
- ③ ANT Broadcasting signal input socket for the second tuner.
- ④ RF LOOP OUT Broadcasting signal output socket from the second tuner.
- ⑤ VIDEO Composite video output socket for the television set

⑥ AUDIO L/R	Stereo audio output socket for the television set or audio system.
⑦ S-VIDEO	Super video output socket for the television set.
⑧ TV	Audio and video output socket for the television set.
⑨ VCR	Audio and video input / output socket for the video cassette recorder or such-like.
⑩ RF IN	Analog television input socket.
⑪ RF OUT	Analog television output socket.
⑫ S/PDIF	Dolby digital output socket for the audio system.
⑬ USB	USB port for firmware update and data transfer.
⑭ RS-232	Serial port for firmware update and data transfer.

Table 2.3: Connectors specification

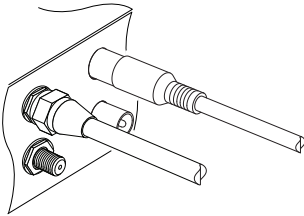
VIDEO	Composite video (CVBS) output
AUDIO	Left & right audio output
S-VIDEO	Super video (S-Video) output
TV	CVBS/S-Video/RGB/YUV video output Left & right audio output
VCR	CVBS video output Left & right audio output CVBS/S-Video/RGB/YUV video input for bypass Left & right audio input for bypass
S/PDIF	Dolby digital audio output
RS-232	115.2 kbps at maximum
USB	2.0

2.4 Connecting up your digital receiver

There are several ways to set up the digital receiver. Set up the digital receiver suitably to your television and other appliances. If you have any problem with your setup or need a help, contact your dealer.

2.4.1 Connecting to the antenna

Whatever sort of connection you have between the digital receiver and the television, you need to connect the digital receiver to your television antenna so that it can receive digital television services.



Connect a cable from your satellite antenna to the LNB IN connector on the back panel of the digital receiver, and connect a cable from your terrestrial antenna to the ANT connector.

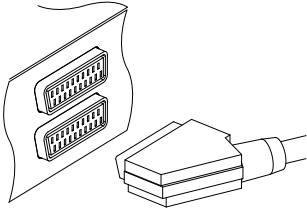
2.4.2 Connecting to your television

Among the following connectors on your digital receiver, you should use the first connector to get best video quality. If your television does not have the matching connector then use the next connector.

1. SCART connector (TV)
2. S-Video connector (S-VIDEO)
3. Composite connector (VIDEO)
4. RF connector (RF OUT)

You should configure audio and video settings after connecting. See § 3.2 for detailed description.

To use the SCART connector

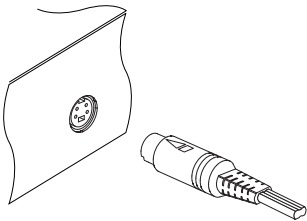


For best results with a standard television set, you should use a SCART cable, plugging one end into the TV socket on the digital receiver and the other end into a free SCART socket on your television.

Some televisions have inputs via Component or S-Video connectors rather than SCART. If you have such a television, use an appropriate conversion cable to link the TV socket on the digital receiver to the matching socket on your television.

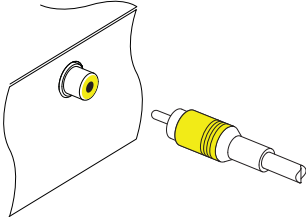
If you connect with a standard SCART cable, you do not have to make audio connections because the SCART connector can output stereo audio. But if you do with a conversion cable, such as SCART-to-Component, you have to make audio connections.

To use the S-Video connector



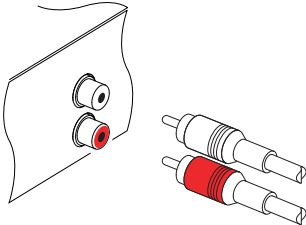
You should prepare a S-Video cable to use the S-Video connector. Plug one ends of the cable into the S-VIDEO socket on the digital receiver, and the other end into the matching socket on your television.

To use the composite video connector

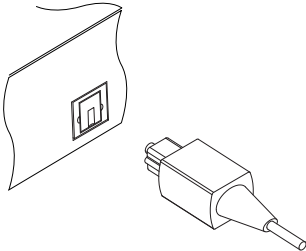


You should prepare a composite video cable (RCA cable) to use the composite video connector. Plug one end of the cable into the VIDEO (yellow) socket on the digital receiver, and the other end into the matching socket on your television.

To connect the audio connectors



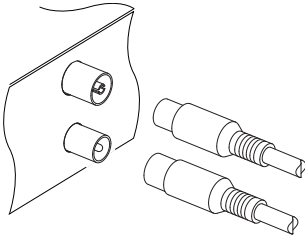
You should prepare an audio cable (RCA cable) to connect the audio connectors. Plug one ends of the cable into the AUDIO L (white) and AUDIO R (red) sockets on the digital receiver, and the other ends into the matching sockets on your television or audio system.



To enjoy Dolby digital audio, your television or audio system must be able to decode Dolby digital audio, and you should prepare a S/PDIF cable. Plug one end of the cable into the S/PDIF socket on the digital receiver, and the other end into the matching socket on your audio system.

To use the RF connector

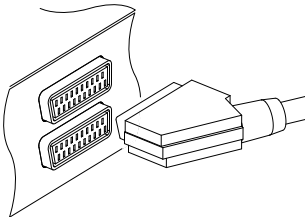
If your television does not have any video and audio input, you will need to use the radio frequency output from the digital receiver.



In this case, you will need to connect a cable from the RF OUT socket to the antenna connector on your television. To ensure your television can also pick up existing analogue channels as well, you will need to connect a cable from your television antenna or from the RF LOOP OUT connector on the back of the digital receiver to RF IN connector.

2.4.3 Connecting to your video cassette recorder

The digital receiver also can output video to another appliance such as video cassette recorder or video receiver through an auxiliary SCART connector.



You should prepare a SCART cable to use the auxiliary SCART connector. Plug one end of the cable into the VCR socket on the digital receiver, and the other end into the matching socket on your video cassette recorder or suchlike.

2.5 Inserting batteries in the remote control

To insert the batteries, open the battery compartment by removing the lid, and then insert the batteries observing the polarity, which is marked on the base of the battery compartment.

If the digital receiver no longer reacts properly to remote control commands, the batteries may be flat. Be sure to remove used batteries. The manufacturer accepts no liability for damage resulting from leaking batteries.

NOTE

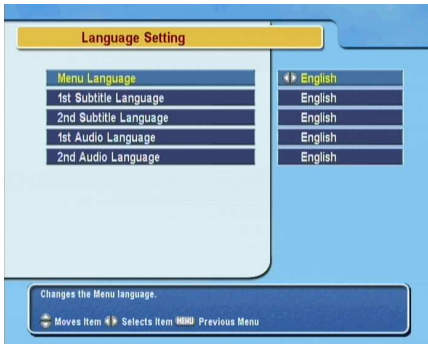
Batteries, including those which contain no heavy metals, may not be disposed of with household waste. Please dispose of used batteries in an environmentally sound manner. Find out about the legal regulations which apply in your area.

Chapter 3

Preference Settings

3.1 Language settings

You can designate languages for menus, audio tracks and subtitle tracks.



Select the System Setting > Language Setting menu.


Menu language

The digital receiver supports a lot of menu languages: Arabic, Dutch, English, German, French, Italian, Russian, Turkish and so forth. Set the Menu Language option to your desired

language. Once you select a language, the menu will be immediately displayed in the selected language.


Subtitle language

Set the 1st Subtitle Language and 2nd Subtitle Language options to your desired languages. When you watch a program, if the program has the subtitle track of the language designated at the 1st Subtitle Language, it will be displayed. If the first language is not available but the second language is available, the second language's subtitle will be displayed. If there is not any available language, no subtitle will be displayed.

Apart from this setting, you can select a subtitle track with the  button. See § 5.1.4 for detailed description.

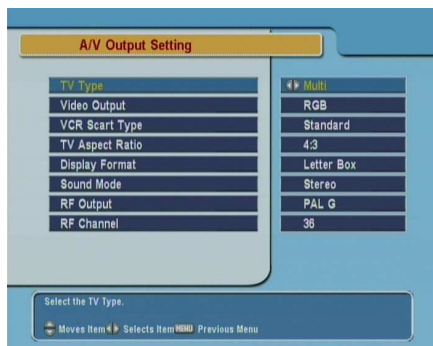
Audio language

Set the 1st Audio Language and 2nd Audio Language options to your desired languages. When you watch a program, if the program has the audio track of the language designated at the 1st Audio Language, it will be output. If the first language is not available but the second language is available, the second language's audio will be output. If there is not any available language, an ordinary audio will be output.

Apart from this setting, you can select an audio track with  button. See § 5.1.3 for detailed description.

3.2 Video and audio settings

You have to configure the video and audio settings appropriately to your television set and appliances.



To configure the video and audio settings, select the System Setting > A/V Output Setting menu.

3.2.1 Television standard

The digital receiver supports two types of television standard. One is the PAL standard, and the other is the NTSC standard. PAL was adopted in European countries while NTSC is adopted in USA, Canada, Mexico and so forth.

If you have a PAL television, you have to set the TV Type option to PAL. In this case, if a service is broadcasted in NTSC standard, the digital receiver converts it into the PAL standard for your PAL television. However, its quality would somewhat fall. The opposite case brings about the same result.

The best thing is to watch PAL services with a PAL television and to watch NTSC services with a NTSC television. However, the multi television set is able to process both of them. So if you have an multi television set, set the TV Type option to Multi. With this option, the digital receiver will output them without standard conversion. This setting is most recommended especially if you are not sure what standard television you have.

3.2.2 Color model


Through the TV SCART connector, the digital receiver is able to output video in various color models. If you have the digi-

tal receiver linked to your television from this connector, you should set the **Video Output** option to your desired color model. If you have connected them by RCA connector at which VIDEO reads on the back panel of the digital receiver, you do not have to set this option because the digital receiver outputs CVBS video through RCA connector independent of SCART connector.

However, If you have connected them by S-VIDEO connector, you have to set this option to **S-Video** because the output through S-Video connector comes from the SCART interface.

It is known in general that the RGB color model provides the best video quality with little difference from the YUV color model but the CVBS color model does the least. So RGB would be most desirable for this option.

3.2.3 Video cassette recorder

You would have the digital receiver linked to your video cassette recorder or such an appliance from the VCR SCART. The digital receiver will operate differently depending on the setting of the **VCR Scart Type** option. If the option is set to **Standard**, the digital receiver will pass the video from the video recorder to your television when the video recorder starts playback. But if the option is set to **External A/V**, the digital receiver will not pass the video even though the video recorder starts playback. To pass it, you have to press  button.

NOTE

In this case, it is impossible that the digital receiver records the video that the video recorder plays back because the digital receiver is just a bypass for the video recorder.

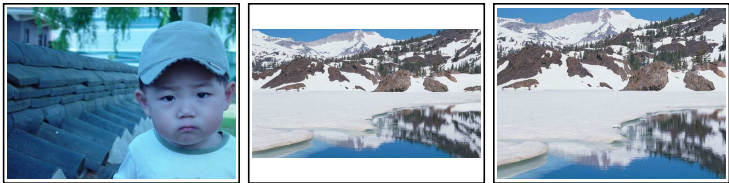
3.2.4 Television aspect ratio

If you have a wide-screen television, set the **TV Aspect Ratio** option to 16:9.



You can enjoy well both wide-screen programs and normal-screen programs with your wide-screen television as the above figures show. The left figure shows a wide picture displayed in the wide screen, and the right figure shows a normal picture displayed in the wide screen.

If you have a normal-screen television, set the TV Aspect Ratio option to 4:3.




You cannot fully enjoy wide-screen programs with your normal-screen television as the above figures show. The left figure shows a normal picture displayed in the normal screen. To watch wide-screen programs in the shape like the center figure, set the 16:9 Display Format option to Letter Box. Wide-screen pictures then will be reduced to fit to the width of the normal screen. Otherwise to watch them in the shape like the right figure, set the option to Center Extract. Wide-screen pictures then will be cut out on the left and right sides equally to fit to the width of the normal screen.

3.2.5 Sound mode

Basically, there are two audio sources as you can find two audio sockets on the back panel of the digital receiver. You can

enjoy only one source or both of them in either stereo or mono. Set the **Sound Mode** option as you desire.

Apart from this setting, you can change the sound mode with  button. See § 5.1.3 for detailed description.

3.2.6 RF output

If you have connected your television to the RF OUT socket, you should configure the radio frequency output. The digital receiver can make the analog television from the digital television and output it through the RF OUT socket.

Set the **RF Output** option to the television standard that your country supports referring to Table 3.1.

Table 3.1: Television standards by country

Signal type	Country
PAL G	Australia, Austria, Cyprus, Czech Republic, Egypt, Estonia, Finland, Germany, Greece, Iceland, Iran, Israel, Italy, Kuwait, Latvia, Libya, Lithuania, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, Syria, Yugoslavia
PAL I	Hong Kong, Macao, Republic of Ireland, South Africa, United Kingdom
PAL K	Czech Republic, Hungary, Poland
NTSC M	Bahamas, Belgium, Bolivia, Chile, Ecuador, Fiji, Guam, Jamaica, Mexico, Panama, Peru, United States, Venezuela

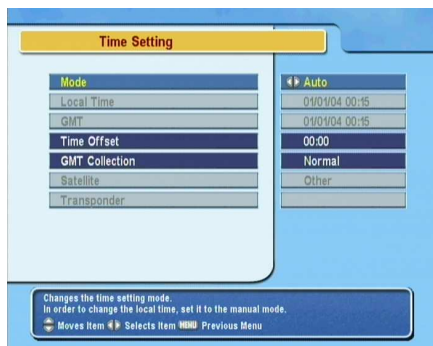
Set the **RF Channel** option to a channel number as you desire. You have to tune your television to the channel set to this option to watch television.

If you have connected your analog television antenna to the RF IN, you can watch analog broadcasts via the digital receiver.

3.3 Local time setting

You should set your local time for timer events. If you did not set the local time right, the program time table provided

by the electronic program guide may also be distrustful. Refer the electronic program guide to § 5.2.



Select the System Setting > Local Time Setting menu.

You can set the local time either manually or automatically using Greenwich Mean Time (GMT). However, it is recommended to use the Greenwich mean time.

To set the local time with GMT, perform the following steps:

1. Set the **Mode** option to **Auto**.
2. Set the **Time Offset** option to the time difference belonging to your time zone referring to Table 3.2.

With the above settings, the digital receiver will scan all transponders specified one by one until to get the Greenwich mean time. Make sure that your local time is displayed right on the Local Time option.

To set the local time yourself, set the **Mode** option to **Manual** and enter your local time to the Local Time option with the numeric buttons. The time format is *day/month/year 24-hour:minute*.

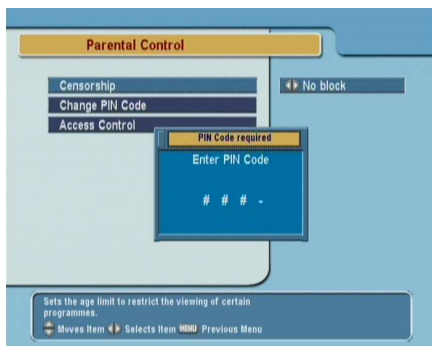
Table 3.2: Time offset table

Time offset	City
GMT – 12:00	Eniwetok, Kwajalein
GMT – 11:00	Midway Island, Samoa
GMT – 10:00	Hawaii
GMT – 09:00	Alaska
GMT – 08:00	Pacific Time US, Canada
GMT – 07:00	Mountain Time US, Canada
GMT – 06:00	Central Time US, Canada, Mexico City
GMT – 05:00	Eastern Time US, Canada, Bogota, Lima
GMT – 04:00	Atlantic Time Canada, La Paz
GMT – 03:30	Newfoundland
GMT – 03:00	Brazil, Georgetown, Buenos Aries
GMT – 02:00	Mid-Atlantic
GMT – 01:00	Azores, Cape Verde Islands
GMT	London, Lisbon, Casablanca
GMT + 1:00	Paris, Brussels, Copenhagen, Madrid
GMT + 2:00	South Africa, Kaliningrad
GMT + 3:00	Baghdad, Riyadh, Moscow, St. Petersburg
GMT + 3:30	Tehran
GMT + 4:00	Abu Dhabi, Muscat, Baku, Tbilisi
GMT + 4:30	Kabul
GMT + 5:00	Ekaterinburg, Islamabad, Karachi, Tashkent
GMT + 5:30	Bombay, Calcutta, Madras, New Delhi
GMT + 6:00	Almaty, Dhaka, Colombo
GMT + 7:00	Bangkok, Hanoi, Jakarta
GMT + 8:00	Beijing, Perth, Singapore, Hong Kong
GMT + 9:00	Tokyo, Seoul, Osaka, Sapporo, Yakutsk
GMT + 9:30	Adelaide, Darwin
GMT + 10:00	Eastern Australia, Guam, Vladivostok
GMT + 11:00	Magadan, Solomon Islands, New Caledonia
GMT + 12:00	Fiji, Auckland, Wellington, Kamchatka

3.4 Parental control

In general a television program is labeled a rating according to the level of violence, nudity and language of its content. When you are watching a program, you can check its program rating on the information box. Refer the information box to § 5.1.2.

You can prevent your children from watching specific programs by specifying a basis rating.



To specify a basis rating, select the System Setting > Parental Control menu. At this time, you have to enter a Personal Identification Number (PIN). The number is initially set to '0000'.

If you wish to restrict 15 or above rated programs, set the Censorship option to 15 (age). Setting it to No block restricts no program; on the other hand, setting it to Total block restricts every program.

NOTE

If a program does not have any rating information, your restriction setting will not take effect.


If anyone try to watch a program that is out of the basis rating, the person has to enter the personal identification number.

To change the number, select the Change PIN Code menu; then an input box appears. You have to enter a desired number twice for confirmation.

You can also restrict uses of some menus. Selecting the Access Control menu displays a list of menus that you can lock. If the Time Setting item is set to Locked, you have to enter the personal identification number to access the Time Setting menu. If you enter a wrong number, you cannot use the menu. To release a shut item, set it to Unlocked.

3.5 Adjusting on-screen display

You can adjust the transparency level of on-screen display. Select the System Setting menu and set the OSD Transparency option as you desire. Its available range is 0 to 50 percent.

You can adjust the display time of the information box. Refer the information box to § 5.1.2. To adjust its display time, select the System Setting menu and set the Info Box Display Time option as you desire. Its available range is 1 to 30 seconds. If you set this option to No Info Box, the information box will not displayed when you switch services. However, pressing the  button displays the information box. If you set this option to Never Hide, the information box will always be displayed.

You can raise or lower the position of the information box. Select the System Setting menu, and then set the Info Box Position option as you desire. Its available range is -10 to +3 line. The more high the value is set, the more low the information box will be positioned.

3.6 To use the time shift feature

You can use the time shift feature with this digital receiver. Time shift just means that the most recent hour of the television service you are watching is saved on the hard disk of the digital receiver. To enable this feature, select the System Setting menu and set the Time Shifting option to Enable. For detailed descriptions about the time shift function, refer to § 5.4.

3.7 Setting for MediaHighway EPG

Almost every service provider would provide electronic program guide containing detailed program information. You can get more abundant program information from a dedicated transponder providing only electronic program guides than general service providers. MediaHighway refers to the ded-

icated transponder. For detailed descriptions about the electronic program guide, refer to § 5.2.



To set a dedicated electronic program guide transponder, select the System Setting > MediaHighway EPG menu.

To use a dedicated electronic program guide transponder, set the MediaHighway option to On. And then, set the Satellite Name and Home Transponder options to available ones, and set the Tuner Select option to a tuner through which to receive them.

Chapter 4

Service Search

You have to perform service search after connecting the digital receiver.

4.1 Searching satellite broadcasting services

This digital receiver can be operated with both fixed and motorized antenna system. You have to configure antenna settings according to your antenna system in the following order:

1. Configure LNB settings. (Refer to § 4.1.1.)
2. Set the position of your desired satellites if you have a motorized antenna. You can control the antenna in DiSEqC 1.2 mode or USALS mode. Refer DiSEqC 1.2 to § 4.1.2, and refer USALS to § 4.1.3.
3. Perform service search.

4.1.1 Configuring LNB settings

There are in large two frequency bands for satellite broadcasts. One is C band which ranges approximately from 4 to 6 GHz.

The other is K_u band which ranges approximately from 12 to 18 GHz.



The LNB (Low Noise Block converter) is used to take a wide band of relatively high frequencies, amplify and convert them to similar signals carried at a much lower frequency, which is called IF (Intermediate Frequency).

High frequencies from satellites are converted into from 950 to 2150 MHz by a LNB.



Select the Installation > Satellite Setting > LNB Setting menu to configure the LNB settings.

Pressing the **OK** button on the Satellite Name option displays the satellite list in alphabetic order. Select the satellite toward which your antenna sets its face.

The digital receiver has a database about broadcasting satellites and their transponders, containing the following information: satellite position, frequency range, symbol rate, polarization and LNB frequency corresponding to the frequency range. So you might not have to specify the LNB Frequency option. However, if you have selected the Other entry at the Satellite Name option to specify a satellite that is not in the

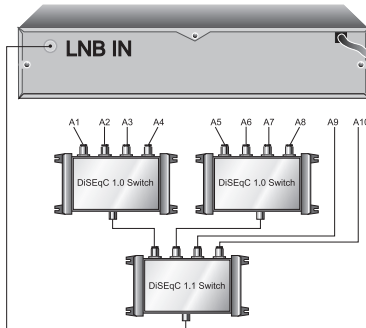
satellite list, you might have to make out the correct LNB frequency. The difference between a broadcasting frequency and its LNB frequency must be within 950 to 2150 MHz. For example, if the frequency band of your desired satellite ranges from 3660 to 4118 MHz, you have to set the LNB Frequency option to 5150 MHz.

The LNB has to be supplied with power to operate. Set the LNB Power option to On if it does not have any other power supply.

You had better ignore the 22 kHz option.

The digital receiver is designed to be compatible with DiSEqC (Digital Satellite Equipment Control) switches. It is possible to connect several antennas to one digital receiver by DiSEqC switches. A DiSEqC 1.0 switch allows switching between up to 4 satellite sources and a DiSEqC 1.1 switch allows switching between up to 16 satellite sources.

Set the DiSEqC 1.0 and DiSEqC 1.1 options according to your antenna configuration.



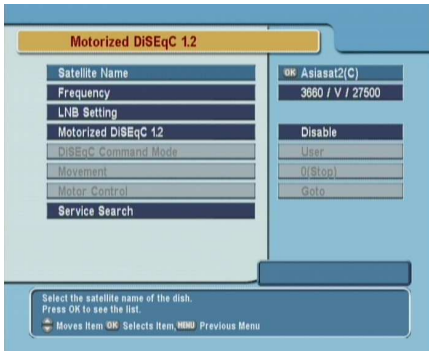
For example, to select the antenna connected to the A5 input in the left figure, set the DiSEqC 1.1 option to 2 of 4 and the DiSEqC 1.0 option to 1 of 4. If you have a mini DiSEqC 1.0 switch which has only two inputs, you should set the DiSEqC 1.0 option to Mini A instead of 1 of 4.

4.1.2 Configuring DiSEqC 1.2 settings

Your motorized antenna will turn toward your desired satellites horizontally by DiSEqC 1.2.



When you switch to a service, if the service is provided by a satellite other than current one, it will take longer time than usual because the antenna has to turn to its position.



To use DiSEqC 1.2, select the Installation > Satellite Setting > Motorized DiSEqC 1.2 menu.

At first you have to set the Motorized DiSEqC 1.2 option to Enable.

To get the correct position of your desired satellite, perform the following steps:

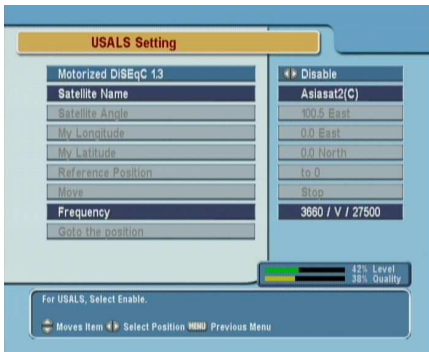
1. Choose your desired satellite at the Satellite Name option.
2. Set the DiSEqC Command Mode to User.
3. Select the Goto command at the Motor Control menu. Then the antenna will turn toward your selected satellite with the position data that the digital receiver has.
4. If the receiving quality, which is displayed on the right bottom on the screen, is not good, tune the antenna finely with the commands of the Movement menu. If you select the 2(E) movement command, the antenna will move to the east by two degrees. At this time you had better check the receiving quality of every transponder and choose the best one at the Transponder (or Frequency) option. It will be helpful to your fine tuning.

5. Finally select the Store command at the Motor Control menu to save the tuned position when the receiving quality has turned good.

There are more motor control commands for installers, but this manual does not describe them. If you are an installer, refer them to the manual for the *STAB* rotor.

4.1.3 Configuring USALS settings

USALS (Universal Satellite Automatic Location System), also known as DiSEqC 1.3, calculates the positions of all available satellites from your location. Compared to DiSEqC 1.2, it is no longer required to manually search and store every satellite position. Just by pointing to a known satellite position is enough. This position will act as the central point. The USALS will then calculate positions of visible satellites.



To use USALS, select the Installation > Satellite Setting > USALS Setting menu.

At first you have to set the Motorized DiSEqC 1.3 option to Enable.

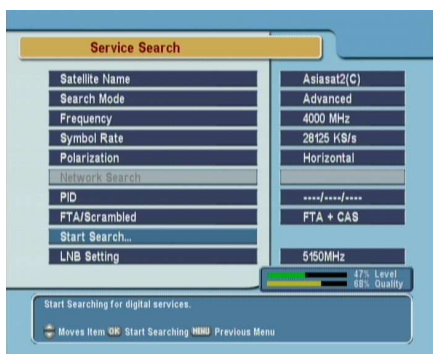
To calculate every satellite position, perform the following steps:

1. Choose your desired satellite at the Satellite Name option.
2. Input your location to the My Longitude and My Latitude options with the $\boxed{V-}$, $\boxed{V+}$ and numeric buttons.
3. Input the position of your selected satellite to the Satel-

lite Angle if it is not correct.

4. Select the Goto the position command. Then the antenna will turn toward your selected satellite calculating its position.
5. If the receiving quality, which is displayed on the right bottom on the screen, is not good, tune the antenna finely with the commands of the Move menu. The changed position is automatically saved at one. At this time you had better check the receiving quality of every transponder and choose the best one at the Transponder (or Frequency) option. It will be helpful to your fine tuning.

4.1.4 Searching services



To perform service search, select the Installation > Satellite Setting > Service Search menu.

There are four service search methods:

- Searching every service of a satellite.
- Searching every service of a transponder.
- Searching one service of a transponder.
- Searching every service of a SMATV (Satellite Master Antenna Television) transponder.

To search every service of a satellite, perform the following steps:

1. Choose your desired satellite at the Satellite Name option.
2. Set the Search Mode option to Auto.

To search every service of a transponder, perform the following steps:

1. Choose your desired satellite at the Satellite Name option.
2. Set the Search Mode option to Manual.
3. Choose your desired transponder at the Frequency option or input it with the numeric buttons.
4. Input the symbol rate of your desired transponder to the Symbol Rate option with the numeric buttons.
5. Set the Polarization option to the polarization of your desired transponder.

NOTE

You could get the transponder information from a satellite magazine or web site such as <http://www.satcodx.com>.

To search one service of a transponder, perform the following steps:

1. Choose your desired satellite at the Satellite Name option.
2. Set the Search Mode option to Advanced.
3. Choose your desired transponder at the Frequency option or input it with the numeric buttons.
4. Input the symbol rate of your desired transponder to the Symbol Rate option with the numeric buttons.
5. Set the Polarization option to the polarization of your desired transponder.

6. Specify the PIDs of your desired service at the PID menu with the numeric buttons. PID (Packet Identifier) is a set of numbers that identifies transport stream packets.

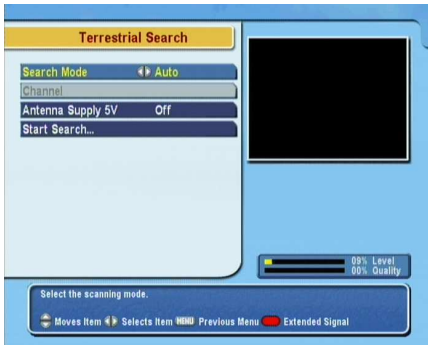
To search every service of a SMATV transponder, if the digital receiver is connected to a SMATV, perform the following steps:

1. Choose your desired satellite at the Satellite Name option.
2. Set the Search Mode option to SMATV.
3. Choose your desired transponder at the Frequency option or input it with the numeric buttons.
4. Input the symbol rate of your desired transponder to the Symbol Rate option with the numeric buttons.
5. Set the Polarization option to the polarization of your desired transponder.

You can search pay services as well as free services. To search only free services, set the FTA/Scrambled option to FTA only. FTA means free service. To search only pay services, set it to CAS only. CAS means pay service. To search both free services and pay services, set it to FTA + CAS.

To start service search, select the Service Search command. Then appears a list box, in which found services will be listed. Press the **[OK]** button to save found services when a service search has been completed. To stop service search on the way or exit without saving, press the **[EXIT]** button.

4.2 Searching terrestrial broadcasting services



To perform service search, select the Installation > Terrestrial Search menu.

If you have an active antenna, you should set the Antenna Supply 5V option to on to supply power to the amplifier of your antenna. The digital receiver will supply the antenna with 100 milliamperes at maximum.

You should set the Search Mode option to Auto at the first service search after connecting the digital receiver. The digital receiver will search all available services with automatic search mode. Transponder numbers range from 5 to 12 at VHF and 21 to 69 at UHF.

To search a certain transponder, set the Search Mode option to Manual, and select your desired transponder at the Channel option.

You can search pay services as well as free services. To search only free services, set the FTA/Scrambled option to FTA only. FTA means free service. To search only pay services, set it to CAS only. CAS means pay service. To search both free services and pay services, set it to FTA + CAS.

To start service search, select the Service Search command. Then appears a list box, in which found services will be listed. Press the **[OK]** button to save found services when a service search has been completed. To stop service search on the way

or exit without saving, press the **EXIT** button.

4.3 Copying services

The digital receiver maintains separate service list with each tuner. If a certain service is registered on only one tuner's service list, It may be impossible to watch a service and record two other services. You can copy entries of one tuner's service list to the other tuner's service list to avoid such inconvenience.

To copy service entries, select the **Installation > Services Copy** menu. There are three copy commands. To copy service entries of the first tuner to the second tuner's service list, select the **Tuner 1 to Tuner 2** command. To copy on the contrary, select the **Tuner 2 to Tuner 1** command. To copy reciprocally, select the **ALL** command.

4.4 Resetting to factory settings

The digital receiver maintains the following data:

- Satellite list
- Service list
- Favorite list
- Timer list
- Preference settings

You can reset all data of the digital receiver. To reset all the data, select the **Installation > Factory Setting** menu, then you will be asked for confirmation. With the **Yes** reply, service entries, favorite entries and timer events will be all deleted, and preference options will be reset to the manufacturer's factory settings.

Chapter 5

Daily Usage

5.1 Watching television

To switch services, press the **P+** or **P-** button. Pressing **○** button switches to the previously viewed service. You can switch to your desired service by entering its service number with the numeric buttons. You can also select a service to watch in the service list. To see the service list, press the **OK** button.



The service list enumerates the following items:

- Service number
- Service name
- Transmitting satellite
- Transponder

A dollar mark (\$) may be marked on some entries, which means pay service. To watch a pay service, you need its subscription card.

To select your desired service, put the highlight bar on its entry with the **(P+)** or **(P-)** button and press the **(OK)** button. Then your selected service will be shown. Pressing the **(V-)** or **(V+)** button skips over 10 entries up or down. Entering a service number with the numeric buttons puts the highlight bar on its entry.

Pressing the **(A)** button performs an alphabetic browse. For instance, when the highlight bar is on an entry of which initial is B, pressing the **(A)** button puts the highlight bar on the first entry of which initial is C.

To sort the service list by service name, press the **(S)** button. Pressing this button once more makes it sorted by service number.

In addition, pressing the **(C)** button displays a dialog box, in which you can do the followings:

- Select your desired satellite with the **Satellite** option, then the only services provided by the selected satellite will be listed.
- Select your desired tuner with the **Tuner** option, then the only services provided through the selected tuner will be listed.
- To browse service entries grouped by service provider, set the **Show Provider** option to **On**. You may regard a service provider as a transponder.
- To rename the current service entry, select the **Rename** command, then a keyboard appears with which you can enter a name.
- To prevent other family from watching the current service entry, set the **Lock** option to **Locked**. You have to enter PIN code when to watch or unlock a locked service.
- To delete the current service entry, select the **Delete** com-

mand, then a confirmation box appears. Once you confirm with **Yes**, the entry will be deleted. If you want to add the entry to the service list as before, you have to perform service search again. Refer service search to § 4.1.4.

- To add the current service entry into a favorite list, select the **Add to FAV** command, then the favorite list appears. Once you select a desired group, the entry will be added in it.
- You can additionally sort the service list with the **Sorting** option as follows:

Default by service number

Alphabetic by service name

Satellite by satellite

FTA–CAS from free services to pay services

CAS–FTA from pay services to free services

Provider by service provider

Fav–NoFav from favorite services to unfavorite services.

For how to edit the service list, refer to § 6.1.

5.1.1 Watching favorite services

You can select a service to watch in the favorite list as well as in the service list. To display your favorite list, press the **FAV** button; then a favorite group list will be displayed. Whenever moving the highlight bar of the group list up or down, favorite services belonging to a highlighted group are listed.



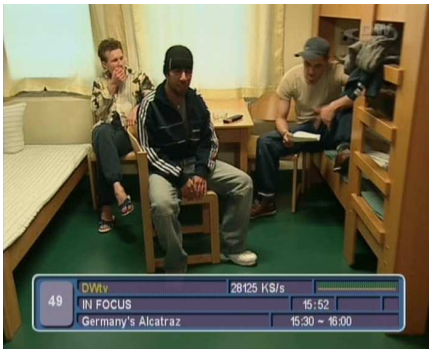
To select a favorite service of a group, press the **[V+]** button; then the highlight bar of the favorite list becomes movable. Once you select a desired entry with the **[OK]** button, the selected service will be shown. Otherwise to select another group, press the **[V-]** button; then the highlight bar of the group list becomes movable.

If you switch to another service after you have selected a favorite service, it will be also another favorite service of the selected group. The digital receiver will remind you what group you have selected displaying its name on the right top of the screen whenever you switch to another service. If you wish you can select all services, select the **All services** entry in the favorite list.

For how to edit the favorite list, refer to § 6.2.

5.1.2 Viewing program information



Pressing **[i]** button displays the information box, in which you can verify the followings:





- Service number
- Service name
- Transmitting satellite
- Receiving tuner
- Transponder information
- Signal level and quality
- Program name
- Program rating
- Program commentary
- Broadcasting time
- Current time

In addition, you might see the following symbols:


- Subtitle symbol (☐) if subtitles are provided on the current program.
- Teletext symbol (≡) if teletext is provided on the current program.
- Lock symbol (♣) if the current service is locked.
- Dollar symbol (\$) if the current service is a pay service.
- Multifeed symbol (☐) if the current program is provided in multifeed service.

Pressing  button once more displays detailed information about the current program. To hide the information box, press the  button.


5.1.3 Selecting audio track

Some programs are provided with audio tracks of one or more languages. Pressing the  button displays available audio tracks. Once you select one among them, it will be sounded. In addition, you could enjoy audio tracks in one of four sound modes: **Stereo**, **Mono**, **Left** or **Right**. However, if multifeed service is available at the moment, multifeed services will be displayed. In this case, you have to press  button once more to select an audio track.

5.1.4 Selecting subtitle track

Some programs are provided with subtitle tracks of one or more languages. If the current program provides subtitle tracks, the subtitle symbol (☐) will be marked on the information box. Pressing the  button displays available subtitle tracks. Once you select one among them, it will be displayed.

5.1.5 Viewing teletext

With some programs, such profitable information as weather reports, news or stock quotations is provided by means of teletext service. If the current program provides teletext service, the teletext symbol (≡) will be marked on the information box. Press the  button to view teletext pages. You can zoom in the teletext with the yellow button, and adjust its transparency with the blue button. To clear the teletext screen, press the (EXIT) button.


5.2 Viewing electronic program guide

The Electronic Program Guide shows the current and scheduled programs that are or will be available on each service with a short summary for each program.




Pressing the (GUIDE) button displays the electronic program guide, in which you can see the following things:


- Scheduled programs
- Program commentary
- Broadcasting date
- Broadcasting time

To see detailed information of a desired program entry, put the highlight bar on your choice with the (P+) or (P-) button and press  button.

To switch to an other service, press the (V-) or (V+) button.

To see a program guide for radio broadcasts, press the  button. To turn it back, press the  button again.

Pressing the  button displays the program guide for each

service. To turn it back, press the  button again.

You can make a timer recording by the electronic program guide, for which refer to § 7.1.4.




5.3 Watching multifeed program

Some pay broadcasts such as sports channels would provide a variety of perspectives on a program at the same time. You can select and watch a perspective you prefer among them. This is called multifeed service.

In similar method, they can also provide multiple copies of a program at short time intervals.

Order	Starting time
1	13:00 PM
2	13:15 PM
3	13:30 PM
4	13:45 PM
5	14:00 PM

For example, assume a movie would be broadcasted five times like the table on the left. Even if you have missed the first broadcasting, you can use the rest to watch the movie.

If the current program provides multifeed service, the multifeed symbol () will be marked on the information box. To use multifeed service, press the  button, then available multifeed entries will be listed. Once you select one, it will be presented. At this time, you have to press the  button once more to select audio tracks.








5.4 Watching by time shift

When you are watching a program, you can reverse and watch it again as if it is a recording. This function is called time shift. When you are watching a program using the time shift function, it is in fact being recorded temporarily.



To use the time shift function, the Time Shifting option have to be set to Enable. Refer the Time Shifting option to § 3.6.

How to use the time shift function is as follows:







1. Press  button, then a time shift begins as a progress bar appears. The progress bar has two pointers. One indicates recording position, and the other indicates a playback position. While this bar is on display, you can move the program backward or forward. Pressing  makes the progress bar appear and disappear alternatively.
2. To find a desired playback position, press  or  button unceasingly until it is found.
3. Pressing the  button reverses the program to 10 seconds back.
4. To end time shift, display the progress bar with  button and press  button.

5.5 Watching by picture in picture



You can watch two services at the same time, one of which is shown in a subpicture. We call this picture-in-picture.

How to use the picture-in-picture function is as follows:

1. Press the  button to display a subpicture, in which another service will be shown.
2. Pressing the  button once more minifies the subpicture, and pressing it once again hides the subpicture.
3. Pressing the  button interchanges the main-picture with the subpicture. Even when you play back a recording, you can watch a live service in subpicture. However, the picture interchange will not work in that case.
4. Pressing  button moves the subpicture counterclockwise, and pressing  button moves it clockwise.
5. To display a service list for the subpicture, press  button.
6. If both are pay services all, the only main-picture will be shown.

NOTE

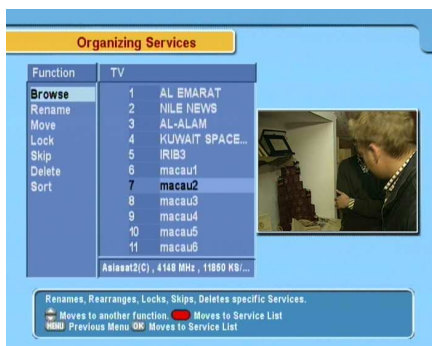
If you wish to watch two pay services by picture-in-picture, you should prepare a dedicated CAM that is able to descramble two pay services simultaneously.

Chapter 6

Listing Services



6.1 Editing the service list



You would have got a service list through a service search. You can rename, move, lock or delete service entries in your service list.




To edit your service list, select the Organizing Satellite Services menu; then an editable service list appears.



To perform an editing work, put the highlight bar on a desired command in the editing command list on the left column and press the **[OK]** button. Then the highlight bar of the service list on the right column becomes movable, that is, you can select

a service entry to edit with the selected command. To select another command after the command execution, press the  button; then the highlight bar of the command list becomes movable. Whenever pressing the  button, the highlight bar of each column becomes movable in turn.

To edit the radio service list, press  button; then radio service entries will be listed in the service list. To recall the television service list after editing works, press  button again.

To rename a service entry, select the **Rename** command in the editing command list and select a desired service entry to rename in the service list; then an on-screen keyboard appears. For how to use the keyboard, refer to § 6.2.

Unlike analog broadcasts, each service does not have a proper service number in digital broadcastings. Service numbers are assigned to services just in order that services get found through service searches. So you can reassign a service number to a service. Moving a service entry is the same as reassigning a service number. To move a service entry, select the **Move** command in the editing command list and select a desired service entry to move in the service list; then the selected entry becomes darker. Move it to a desired place and press the  button. The entry gets renumbered as it moves.

You can lock some services in order to restrain your children from watching those services. To lock a service entry, select the **Lock** command in the editing command list and select a desired service entry to lock in the service list. Then a lock symbol  will be marked on the selected entry. If anyone try to watch a locked service, the person has to enter the personal identification number that is set in the **Change PIN Code** menu. For how to set personal identification number, refer to § 3.4. Pressing the  button on a locked entry in the service list unlocks it.

To delete a service entry, select the **Delete** command in the editing command list and select a desired service entry to delete

in the service list. You can select more entries to delete. After your selections, pressing the **(EXIT)** button displays a confirmation box. Once you reply with **Yes** on the confirmation box, the selected service entries will be deleted. The selected service entry will be If you want to undo the deleted service entries, you have nothing to do but perform service search again.

Once you select the **Sort** command in the editing command list, an option list appears. You can sort the service list with an option of the followings:

Default by service number

Alphabetic by service name

Satellite by satellite

FTA-CAS from free services to pay services

CAS-FTA from pay services to free services

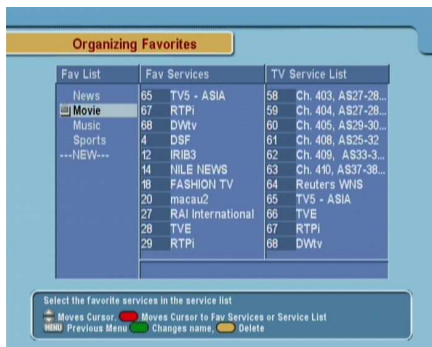
Provider by service provider

Fav-NoFav from favorite services to unfavorite services.

Transponder by transponder

6.2 Editing the favorite list

You can make your own favorite service list. To edit your favorite list, select the **Organizing Favorites** menu; then an editable favorite list appears.

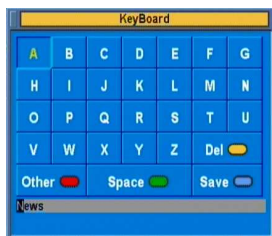


There are a group list on the left column, a favorite list on the center column and a service list on the right column.

You can add a favorite entry by performing the following steps:


1. Put the highlight bar on a desired group entry in the group list and press the **OK** button.
2. Then the highlight bar of the service list becomes movable. Put the highlight bar on a desired service entry and press the **OK** button.
3. Then the selected service entry is added in the favorite list. You can select more entries to add.
4. Press the **●** button to select another group. Whenever pressing the **●** button, the highlight bar of each column becomes movable in turn.


You can add groups up to 30. To add a group, select the **NEW** command in the group list; then a on-screen keyboard appears.




You can move the highlight key horizontally with the **V-** and **V+** buttons and vertically with the **P+** and **P-** buttons. Pressing the **OK** button on a key enters the corresponding letter in the input line.

To type lower case letters or numerals, select the **Other** key. To delete a letter, put the cursor on a desired letter in the input line and select the **Del** key. You must select the **Save** key to complete naming. Otherwise if you press the **EXIT** button, it will not be named.

To rename a group, put the highlight bar on a desired group entry to rename and press the  button; then the on-screen keyboard will appear likewise.

To delete a group, put the highlight bar on a desired group entry to delete and press the  button; then a confirmation box appears. The selected group will be deleted with the **Yes** reply.

Similarly, you can delete a favorite entry with the **OK** button in the favorite list. Besides, you can rearrange a group's favorites by moving a favorite entry. To move a favorite entry, put the highlight bar on a desired entry to move and press the  button; then the selected entry becomes dark. Move it to a desired place and press the **OK** button.

To add radio services, press  button; then radio service entries will be listed in the service list. To recall the television service list after adding radio services, press  button again.

With your favorite service list, you can select your favorite services more handily. Refer to § 5.1 for more descriptions.

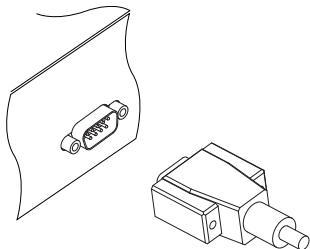
6.3 Transferring receiver data

The digital receiver retains such data as follows:

- Service list
- Favorite list
- Preference settings

It is possible to transfer receiver data to your digital receiver from another same digital receiver connecting them with a RS-232 cable.

To transfer receiver data, perform the following steps:



1. Plug one end of a RS-232 cable (9 pin D-sub cable) into the RS-232 port on the digital receiver, and the other end into the matching port on the other digital receiver.
2. Turn on both of them.
3. Select the Installation > Transfer Firmware > Transfer Data to Other IRD menu.
4. Restart the digital receiver.

NOTE

You had better memorize some important data such as video settings before starting transfer to avoid resetting them.

Chapter 7

Recording and Playing

With one tuner of the digital receiver, you can record a service and at the same time watch another service if the two services are provided through a same transponder. The TF5400 PVR Combo digital receiver has two tuners so that you can enjoy the following things:

- You can record two different services while watching two other different services only if two or more services are provided in a same transponder and the other services are provided in another same transponder. You can watch two services at the same time by the picture-in-picture feature in this case. For detailed descriptions about the picture-in-picture feature, refer to § 5.5.
- You can record two different services while watching one of them by the time shift feature. For detailed descriptions about the time shift feature, refer to § 5.4.
- You can record two different services while playing a recording back.
- When you play and view a recording, you can view a service in subpicture by the picture-in-picture feature.

7.1 Recording a program



Once a recording is started, a recording symbol like the next figure will be displayed on the right top of the screen for a few seconds. When you are watching a service different from the service being recorded, you can view a number on the center of the symbol, which indicates the order that the recording is started. The outer circle of the recording symbol indicates progress rate.

NOTE

When a recording is finished, it might not be saved if its recording duration is less than 1 minute.

7.1.1 Immediate recording by the remote control

To record a program you are watching at present, press button.


To pause recording, press button. To resume it, press button again.




After a recording is started, pressing displays a recording control box like the next figure, in which you can specify its duration on which it will be ended.


the current recording will be stopped after the time set to the Duration option. If the information about the next programs is provided through the electronic program guide, the After


this program and After next program options would be available. Once the After this program option is selected, the current recording will be stopped the moment the current program ends; likewise, once the After next program option is selected, the current recording will be stopped the moment the next program ends.

Selecting the Record pause command pauses recording. When you press  button again to display the recording control box, the Record continue command is displayed instead. Selecting the Record continue command resumes recording.



To stop recording, press  button. Then a confirmation box like the next figure appears, which shows the information of programs being recorded at the moment. Select a program you want to stop.

After a recording is started, you can switch to and watch any other service during the recording. To record another service additionally, switch to a service you want to record, and press  button.

Once a recording is started, it is put on the recording file list even though it is not finished yet. The recording file is named after its service name with a suffix of a number. To display the recording file list, press  button. For detailed description about the recording file list, refer to § 7.2.

7.1.2 Recording by the recording menu



To record a program by the recording menu, select the Recording menu.

You can record two services at the same time. Set the Record No. option to distinguish two records.

Set the Satellite option to the satellite which transmits the service you want to record. Pressing the **[OK]** button on this option displays a satellite list in which you can select your desired satellite.

Set the Service option to the service which provides the program you want. Pressing the **[OK]** button on this option displays a service list in which you can select a desired service.

There are two recording start modes. To start recording immediately, set the Start Time option to Quick. If you are using time shift function and so you wish to record even the contents in the time shift buffer, set this option to Current Event.

Set the Duration option to a time, after which your recording will be finished. The allowable maximum value is 23 hours and 55 minutes.

Pressing **[OK]** on the File Name option displays an on-screen keyboard, with which you can specify a file name for your timer recording. If you do not specify anything, it will be named after its service name. For how to use the keyboard, refer to § 6.2.


To start recording, select the Record Start; then, the Stop command gets enabled. You can select that command to stop the recording.

7.1.3 Making a timer recording

You can make a program to be recorded at a specific time. Even If the digital receiver is off, it will be turned on and start recording at a time specified. The digital receiver will be turned off again as the recording ends.



To make a timer recording, select the System Setting > Timer Setting menu; then a timer list appears.

To add a new timer entry, press the  button, and then a timer edit box appears.

You have to set the Record option to On to record a program. If this option is set to Off, the digital receiver will be turned on at a specified time but not record; instead, you may record a program with your video recorder in this case.

If you want to record a radio program, set the Type option to Radio. Otherwise set to TV.

If you record a satellite program, set the Tuner Select option to Satellite; otherwise, set it to Terrestrial.

Set the Service option to the service which provides the program you want. Pressing the **OK** button on this option displays a service list in which you can select a desired service.

There are 5 timer modes:

One Time means literally 'one time'.

Every Day means literally 'every day'.

Every Weekend means 'Saturday and Sunday per week'.

Weekly means 'one day per week'.

Every Weekday means 'from Monday to Friday per week'.

If your favorite program is broadcasted at weekend and you wish to record every episode of the program, set the **Mode** option to **Every Weekend**.

Set the **Date** option to a date, on which your program will be recorded. The date format is *day/month/year-day of the week*.

Set the **Start Time** option to a time, at which your program will be recorded. You can enter it with the numeric buttons. The time format is *hours:minute*.

Set the **Duration** option to a time, after which your recording will be finished.

The allowable maximum value is 23 hours and 55 minutes.

Pressing **OK** on the **File Name** option displays an on-screen keyboard, with which you can specify a file name for your timer recording. If you do not specify anything, it will be named after its service name. For how to use the keyboard, refer to § 6.2.

To make an entry with the above settings, do press the **OK** command. otherwise it will not be made.

You can edit or delete a timer entry in the timer list. To delete a timer entry, put the highlight bar on the entry you want and press the **DEL** button. To edit a timer entry, put the highlight bar on the entry you want and press **OK** button, then the timer edit box appears, in which you can change its timer settings.

7.1.4 Recording by electronic program guide






If an electronic program guide is properly provided on the service you wish to record, you can set a timer recording in it by performing the following steps:

1. Select a service you want to record.
2. Press the **[GUIDE]** button to display its electronic program guide.
3. Select a program you want to record. Pressed the **[OK]** button one time, **P** is marked up on the program entry; pressed once more, **R** is marked up. The former indicates turn-on, the latter indicates record-on.
4. This timer recording is put on the timer list. To edit this timer recording, press **[OK]** button, then a timer edit box appears, in which you can change its timer settings.
5. To remove the marking, press the **[OK]** button once again.

7.1.5 Recording when using time shift

While you are watching a program by time shift function, you can record the program by performing the following steps:

1. Press **[Time Shift]** button to start time shift.
2. To find a desired recording position, press **[Time Shift]** button or **[Time Shift]** button unceasingly until you find it.

3. Press  button to start recording.
4. Press  button to stop time shift.
5. Press  button once more to stop recording.

For detailed description about time shift function, refer to § 5.4.

7.1.6 To record a pay service

You can record programs from a pay service without its subscription card. However, you need the subscription card when to play back the recorded programs because they are not descrambled. So it is recommended to record them with the subscription card so that they would be descrambled. In that case you can enjoy them without the subscription card like ones from free services.

To record a pay service's program to be descrambled, perform the following steps:

1. Select the pay program you want to record.
2. Make sure its subscription card is inserted in the CAS slot on the front of the digital receiver.
3. Start recording.
4. Do not switch to any other service nor use time shift function until the program is over.

NOTE

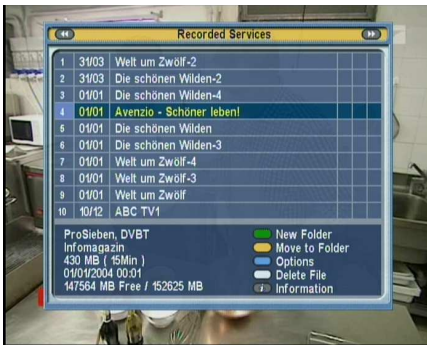
If you have switched over to any other service or used time shift function when recording a pay program, it would be recorded without unscrambling from that position. Even with a partially descrambled recording, you need its subscription card to play back it.

7.2 File list


In recording a program, it is stored as a file in the built-in hard disk of the digital receiver. You can choose and play back a recording file you want in the recording file list.

In addition to the recording file list, there are MP3 file list and TAP file list. With the digital receiver, you can enjoy music or audio books of MP3 format in the same manner as playing back a recording file.

Refer TAP to Chapter 8.




To see the recording file list, press  button.


To turn to another list, press  button or  button.

In a file list, a file entry is comprised of the following information: file number, file name, recording time, file size and so on. You are able to play back, move, delete, rename and lock a file entry in a file list. You are also able to sort the file entries by file name, recording time or file size. Moreover, you can make a new folder.


To make a new folder

To make a new folder, press  button. Then a new folder named GROUP # is created. You can rename the folder in the same manner as renaming a file entry.

To move a file to another folder



To move a file to another folder, put the highlight bar on a file entry you want and press  button. Then a folder list appears. Once you choose a folder in the list, the file gets moved to that folder.

To delete a file

To delete a file, put the highlight bar on a file entry you want and press  button. Then a confirmation box appears. The selected file will be deleted with the Yes reply.


To sort file entries

To sort file entries, perform the following steps:

1. Put the highlight bar on a file entry you want.
2. Press  button to display an option list.
3. Set the Sorting option to Alphabetic, Time or Size as you want.
4. Press the  button.
5. The file entries are sorted by the option specified.

To rename a file




To rename a file, perform the following steps:


1. Put the highlight bar on a file entry you want.
2. Press  button to display an option list.
3. Select the **Rename** menu to display an on-screen keyboard.
4. Enter and save a file name as you want with the keyboard. For how to use the keyboard, refer to § 6.2.
5. The file is renamed as specified.

You can rename a folder in the same manner.

To lock a recording file

To lock a file, perform the following steps:

1. Put the highlight bar on a file entry you want.
2. Press  button to display an option list.
3. To lock the file, set the Lock option to Locked.
4. To unlock the file, set the Lock option to Unlocked.
5. Press the  button.
6. A lock symbol  is displayed on the file entry.

When you press the  button on a locked file entry to play it back, you must enter the personal identification number specified in the Parental Control menu. For the Parental Control menu, refer to § 3.4.




NOTE

This function is available only in the recording file list

7.3 Playing back a recording

When recording a program, all of service characteristics are recorded as they are. So, in playing back a recording file, you can enjoy its audio tracks, subtitle tracks and teletext if available.








How to play back a recording file is as follows:

1. Press  button to display the recording file list.
2. Put the highlight bar on a file entry you want to play back.
3. Press the  button to start playback.
4. To stop playback, press  button.






Once a playback is started, a playback symbol like the next figure will be displayed on the right top of the screen for a few seconds. The outer circle of the playback symbol indicates progress rate.

During a playback, you can enjoy the following tricks:




- To see the detailed information about a recording file being played back, press  to display an information box. The information box shows its file name, broadcaster information, service information, duration and so on.
- To pause playback, press  button. To resume it, press  button.
- To find a desired playback position, press  button or  button unceasingly until you find it.
- To see the current playback position, press  button to display a progress bar. To hide the progress bar, press  again.




You can specify a playback position entering percent with the numeric buttons when the progress bar is hidden.

7.3.1 To play back in slow motion

To play back in slow motion, press  button on playback. Whenever pressing  button, playback speed changes in 3 steps: $\frac{1}{2}$, $\frac{1}{4}$ and $\frac{1}{8}$ times speed. To return to normal speed, press  button.




7.3.2 To play back in fast motion

To play back in fast motion, press  button on playback. Whenever pressing  button, playback speed changes in 3 steps: 2, 4 and 6 times speed. To return to normal speed, press  button.

The digital receiver can play back not only forward but also backward in fast motion. To play back backward in fast motion, press  button. Whenever pressing  button, playback speed changes in 3 steps: 1, 2 and 3 times speed. To turn to forward playback, press  button.



7.3.3 To play back recordings in sequence

The digital receiver can play back several recording files in sequence. To use this utility, perform the following steps:




1. Press  button to display the recording file list.
2. Select file entries you want to play back by pressing  button.
3. When a file entry is selected, it is numbered.
4. Press the  button to start playback after selecting all of your entries.
5. The selected recording files are played back in sequence that they are numbered.


7.3.4 To make a bookmark



You can specify a playback position as a bookmark with  button and jump to the position with  button. You can make 64 bookmarks at maximum. Bookmarks are stored with the recording file so that you can use them again afterwards. To use this utility, perform the following steps:




1. Start playback of a recording file you want.

2. To add a bookmark, press  button at a position you want.
3. To jump to a following bookmark, press  button.
4. To delete a bookmark, jump to the bookmark you want and press  button.








When there is no preset bookmark, pressing  button makes a jump forward 30 seconds.

7.3.5 To play back a recording repeatedly

The digital receiver can play back a recording file repeatedly both in whole and in part.

To play back a recording file repeatedly in whole, press  button on condition that the progress bar is hidden. Then an information box with a repeat symbol  is displayed. To quit the repeated playback, press  button again.

To play back a recording file repeatedly in part, perform the following steps:

1. Start playback of a recording file you want.
2. Press  button to display a progress bar.
3. Find one end position of a block you want to specify with  button or  button.
4. Press  button at the position, then the point starts to blink.
5. Find the other end position.
6. Press  button at the position again, then the block turns to green and starts to be played back repeatedly.
7. Press  button to hide the progress bar.
8. To withdraw the block, press  button on condition that the progress bar is displayed.

7.3.6 To play back a scrambled recording

If you have recorded a program from a pay service with its subscription card, you can play back it as freely as one from free service. Otherwise you need the subscription card for the pay service when to play back the recording file because it has been recorded without unscrambling.






In the recording file list, purely green \$ represents that the file has been recorded with being descrambled wholly; on the other hand, yellowish green \$ represents partially descrambled one, and pure yellow \$ represents not descrambled one at all.

Refer to § 7.1.6 for detailed descriptions about how to record a program from a pay service.

7.4 Editing a recording






7.4.1 To erase a block from a recording

You can cut out a block such as commercial film from a recording file by performing the following steps:





1. Start playback of a recording file you want.
2. Press  button to display a progress bar.
3. Find one end position of a block you want to specify with  button or  button.
4. Press  button at the position, then the pointer starts to blink.
5. Find the other end position.
6. Press  button at the position again, then a confirmation box appears.
7. Select the Cut command, then the block is erased.

7.4.2 To store a block from a recording

You can store a block from a recording file by performing the following steps:

1. Start playback of a recording file you want.
2. Press  button to display a progress bar.
3. Find one end position of a block you want to specify with  button or  button.
4. Press  button at the position, then the pointer starts to blink.
5. Find the other end position.
6. Press  button at the position again, then a confirmation box appears.
7. Select the **Save** command, then the block is stored. The stored file will named after its source file with a suffix of 'CUT' and a number

In addition, you can copy a recording file in whole or in part when playing back it.

1. Start playback of a recording file you want.
2. Find a desired position from which a copy will be started with  button or  button.
3. Press  button.
4. Pressing  button stops copying. The copied file will be named after its source file with a suffix of 'COPY' and a number.



Once a copy is started, a copying symbol like the next figure will be displayed on the right top of the screen for a few seconds. To see copying status, press



button. The outer circle of the copying symbol indicates progress rate.








NOTE




If copying time is less than about 1 minute, the copying will not be done successfully. It is recommended not to change the playback speed.


7.5 Playing a MP3

To play a MP3 file with the digital receiver, you have to transfer your MP3 files to the digital receiver from your personal computer. For how to transfer your MP3 files to the digital receiver, refer to § 7.7.

To play a MP3 file, perform the following steps:

1. Press  button, and then press  button or  button to display the MP3 file list.
2. Put the highlight bar on a file entry you want to play. If you want to play several files, select them with  button.
3. Press  button to start play.
4. To see the detailed information about a MP3 file being played, press  to display an information box. The information box shows its file name, album, artist, duration and so on.
5. To stop play, press  button.

When a MP3 file is being played, pressing  turns around repeat mode, symbol of which is displayed on the information box.  symbol represents that the current MP3 file will be played repeatedly.  symbol represents that all selected MP3 files will be played repeatedly in turn.

To play all MP3 files in a subdirectory, select a desired directory and press  button.

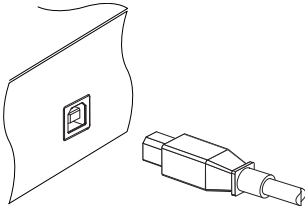
7.6 Formatting hard disk

To format the hard disk of the digital receiver, select the Installation > Format Hard Disk menu.

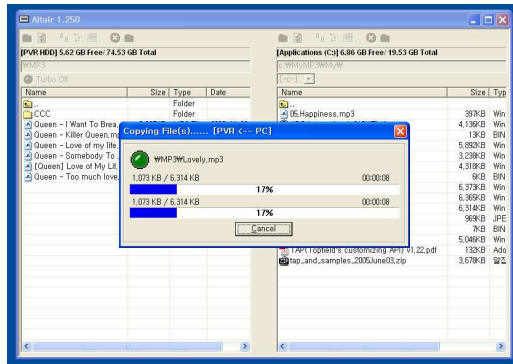
Formatting the hard disk will delete all files permanently. If a new hard disk drive is installed, it must be formatted because the file system of the digital receiver is different from any of the personal computer. You cannot use time shift and record functions with an unformatted hard disk.

7.7 Transferring recording files

It is possible to transfer recording files from the digital receiver to your computer via a USB cable. The file transfer program, *Altair* is needed here, which is available at the Topfield web site, <http://www.i-topfield.com>. The method is as follows:



1. Download *Altair* from the Topfield web site.
2. Plug one end of a USB cable into the USB port on the digital receiver, and the other end into the matching port on your computer.
3. Turn on the digital receiver.
4. Run *Altair*.



How to use *Altair* is as follows:

1. Select a file to transfer. The left hand list box displays recording files in the digital receiver, and the right hand list box displays files in your computer.
2. To start a transfer from the digital receiver to your computer, press the right arrow button (→).
3. To start a transfer from your computer to the digital receiver, press the left arrow button (←).

Chapter 8

Topfield Application Program




If you are good at programming with C++ language, you can make a program executable in the digital receiver. We call this Topfield Application Program (TAP). In making a TAP, it is recommended to use *Diab* compiler of *Wind River*, whose web site address is <http://www.windriver.com>. Some variants of GCC compiler also might perhaps be available as a compiler for TAPs. You can get the Application Program Interface (API) libraries for TAPs from the Topfield web site, <http://www.i-topfield.com>.

Your TAPs will be run under the following conditions:

- Their extension name is *tap*. If they have any other extension name, they will be ignored.
- They are in the Program Files folder. If they are in other folders, they will be ignored.

For how to transfer your program to the digital receiver, refer to § 7.7.


To run a TAP in the digital receiver, perform the following steps:

1. Press  button to display the program file list.
2. Place the highlight bar on a file entry you want to run.
3. Press the  button to start the program.
4. To exit the program, press the  button.



The figure on the left is a running screen of a TAP, *Image Viewer*, which displays image files of BMP, GIF and JPG format. This TAP is available from the Topfieldweb site, <http://www.i-topfield.com>.

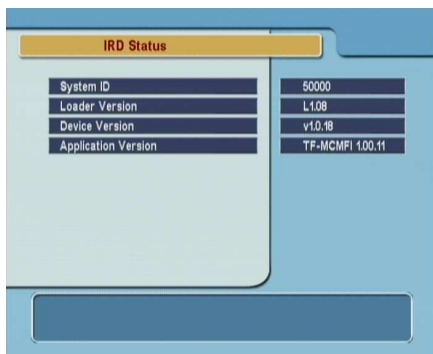
In the program file list, you can use a variety of file control functions including: renaming, sorting, deleting and so on. For detailed descriptions about file control functions, refer to § 7.2.

If you want a program to run automatically when the digital receiver starts up, move the program to the **Auto Start** folder. Press the  button at start-up if you want the program not to run.

Chapter 9

Firmware Update

The digital receiver has a stable and convenient firmware to use. However, a new firmware may be released to improve the digital receiver. You can get a latest firmware and an update utility from the Topfield web site, <http://www.i-topfield.com>.



You should check the firmware information of your digital receiver before downloading a new firmware. To check the current information of the digital receiver, select the Information > IRD Status menu.

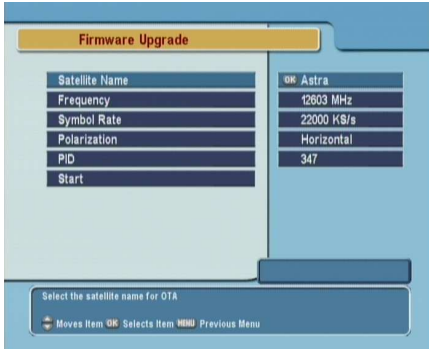
NOTE

You have to update with only the new firmware of which System ID is identical to yours. otherwise you will fail in firmware

update.

9.1 From a broadcaster

You can get a new firmware from a broadcaster over the air.



To update the firmware by this method, press the Installation > Firmware Upgrade menu.

Selecting the Start command starts firmware update

Satellite	<i>Astra</i>
Frequency	12603 MHz
Symbol Rate	22000 KS/s
Polarity	Horizontal
PID	347

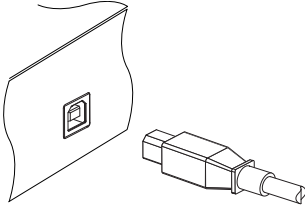
On the left table is presented the transponder information appointed by the manufacturer Topfield for firmware update.

This transponder information can be changed. You can get the information at the Topfield web site, <http://www.i-topfield.com>.

9.2 From your computer via USB port

You can transfer a new firmware to the digital receiver from your computer connecting them with a USB cable. You need *TFDN_USB*, the firmware transfer utility for this, which is available at the Topfield web site, <http://www.i-topfield.com>.

To update the firmware with this method, perform the following steps:



1. Download a new firmware applicable to the digital receiver from the Topfield web site.
2. Plug one end of a USB cable into the USB port on the digital receiver, and the other end into the matching port on your computer.
3. Turn on the digital receiver.
4. Run *TFDN.USB*.

How to use *TFDN.USB* is as follows:

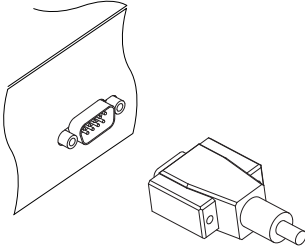


1. Press the Find button to select the new firmware file.
2. Press the Download button to start the file transfer.
3. Press the Stop button to cancel the file transfer.
4. Restart the digital receiver.

9.3 From your computer via RS-232 port

It is possible to transfer a new firmware to the digital receiver from your computer connecting them with a RS-232 cable. You need *TFD-Down*, the firmware transfer utility for this, which is available at the Topfield web site, <http://www.i-topfield.com>.

To update the firmware with this method, perform the following steps:



1. Download a new firmware applicable to the digital receiver from the Topfield web site.
2. Plug one end of a RS-232 cable (9 pin D-sub cable) into the RS-232 port on the digital receiver, and the other end into the matching port on your computer.
3. Turn on the digital receiver.
4. Run *TFD-Down*.

How to use *TFD-Down* is as follows:

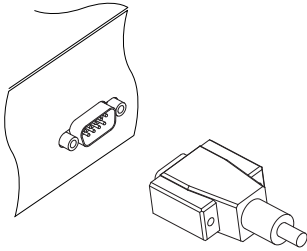


1. Press Find button to select the new firmware file.
2. Press Download button to start the file transfer.
3. Press Stop button to cancel the file transfer.
4. Restart the digital receiver.

9.4 From another digital receiver via RS-232 port

It is possible to transfer a new firmware to the digital receiver from another same digital receiver connecting them with a RS-232 cable.

To update the firmware with this method, perform the following steps:



1. Plug one end of a RS-232 cable (9 pin D-sub cable) into the RS-232 port on the digital receiver, and the other end into the matching port on the other digital receiver.
2. Turn on both of them.
3. Select the Installation > Transfer Firmware > Transfer Firmware to Other IRD menu.

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Correct disposal of this product

This marking shown on the product or its literature indicates that it should not be disposed with other household wastes at the end of its working life.

To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product or their local government office for details of where and how they can dispose this product for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial wastes for disposal.

Topfield continues to improve the digital receiver which this guide explains. So some explanations and illustrations in this guide could be different from the real digital receiver.